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Working for a Living: A Terror Management Theory Approach to Finding Meaning in Vocation

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Working for a Living: A Terror Management Theory Approach to Finding Meaning in Vocation

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Abstract

Many individuals spend approximately a third of their lives either working, receiving training or education for work or otherwise engaged in their career. While the current literature attempts to discern the many roles that work can play in our lives, it only scantly explore the existential nature of work in relation to death and mortality. Terror Management Theory provides a framework explaining how increases in awareness of our mortality influences our behavior and beliefs. By studying work constructs from the lens of Terror Management Theory, we seek to gain insight on the potential role that work plays in bolstering psychological resilience again existential stressors. We use an experimental design to observe power, work social-connectedness, self-determination, and work meaning as they relate to death anxiety between an experimental and control group. An experimental group received a mortality salience cue while the control group received a benign cue. Death anxiety was negatively correlated with work social-connectedness, self-determination and work meaning, but not perceived socio-economic status. None of the observed work constructs significantly moderated the magnitude of reported death anxiety.

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CHAPTER 1: INTRODUCTION

> **"***Work is a central aspect of life, providing a source of structure, a means of survival, connection to others and optimally a means of self-determination. Across the globe, people devote considerable time and effort in preparing for, adjusting to, and managing their work lives.*" (Blustein, 2014, p. 3)

Instead of growing food, hunting and gathering for a living, or having to construct and maintain shelter, much of the basic material needs for survival are met vicariously through the symbolic representation of currency. We go to work to earn currency and apportion this universal resource to any number of needs and priorities. For a privileged demographic of the population whose choices are abundant and whose work life is stable, the amount that one can earn through work is greater than that which is necessary to meet one's basic survival needs. With the matter of survival taken care of, one can devote financial and temporal surplus to improving lifestyle, indulging in novel experiences, or investing towards matters of self-fulfillment (Maslow, 1943).

However, the narrative of fulfilling work has been undermined by the gradual shift away from the stability of work in the twenty-first century towards a financial and vocational climate that demands greater flexibility on the part of workers (Blustein, Kozan, & Connors-Kellgren, 2013; Briscoe, Hall, & Demuth, 2006).

Globalization and increase in the use of rapidly evolving technology has resulted in a landscape of work characterized by a greater need for specialization and adaptability between multiple job titles and roles over the course of one's career (Standing, 2010). Self-employment, part-time and temporary work status, as well as periods of unemployment and underemployment are becoming more common within the narrative of one's career. With the nature of jobs and career in flux, individuals without adequate privilege or resources could experience greater difficulty in adapting to the evolving nature of work in the 21st century. This difficulty could have social and financial consequences for those who are marginalized and disenfranchised which directly influence one's ability to subsist and survive; this poses a threat to an individual's state of mortality as well as their identity. As transitions in macroeconomics take place, it becomes necessary for mental health professionals, career counselors, and psychology as a field, to become aware of how such increases in stress due to work and career could influence psychological health. This includes ways to inform interventions associated with these dynamics. It thus becomes necessary to bridge the existing gap between existential issues such as death and mortality into vocation and work.

The concept of work and the prototypical career is rooted beyond satisfying Maslow's hierarchy of need, and is at its core a function of life, which is given value only by its juxtaposition to death (Maslow, 1943; Maslow, Frager & Cox, 1970). More than merely being the avenue to meeting basic physiological and safety needs, work could be seen as an existential necessity of life. In the eyes of existential psychologists, death provides the opportunity for the attribution of value, and it is from this struggle with

finity that we come to appreciate life. However, in spite of the value appraising properties of death, as well as the many existential anxieties that come along with considerations of non-existence, researchers in vocational and organizational psychology have largely neglected to bring the idea of death into discussion of working.

Traditional and contemporary trends within vocational and career psychology demonstrate a gradual shift both in the nature of work and career, but also in how psychology attempts to conceptualize and enhance working. Traditional models/theories of career fall into three broad categories: person-environment fit theories (Holland, 1959; Holland 1997), developmental theories (e.g., Super, 1980; Super, Savickas & Super, 1996) and social cognitive career theory (Lent 2008; Lent & Brown, 2006). From these three broad categories, new models of vocational theory and career counseling have emerged. However, while the field as a whole continues to evolve and refine the concept of work and career, no career theory explicitly incorporates discussion of death, dying, or the concept of finity.

Terror Management Theory

While vocational psychology and theories of career counseling do not explicitly address death and dying, Terror management theory (TMT; Greenberg, Pyszczynski, & Solomon, 1986) provides both a theoretical and empirical framework from which to build hypotheses on the association between mortality and vocation. TMT posits that human beings are, to our knowledge, uniquely aware of not only our conscious being but also our potential to not-be (Ernest Becker, 1971). In addition, we are also aware that this state of "not-being" is an eventual and unavoidable reality. As an exclusively living thing, we

are unable to fully grasp what it means to be something that could die. As a result, an existential tension is created in which we are forced to wrestle with the paradox of identifying as a thing that is, and also the potential to be a thing that is not.

Our awareness and identification as being finite in nature is known as *mortality salience* (MS; e.g., Rosenblatt, Greenberg, Solomon, Pyszczynski & Al, 1989) and the unease or anxiety we feel as a result of the cognitive dissonance between the paradox of our living and dying identities is called *death anxiety* (DA; e.g., Greenberg, Pyszczynski, Solomon, Rosenblatt, & Al, 1990). Like general anxiety, this is a response to the perception of a threat, which leads to mental, emotional and physiological attempts to adapt or cope with the threat. However, unlike general anxiety, where our reaction allows us to evade, overcome, or persist through the threat (e.g., fight, flight or freeze), death as an antagonist cannot be directly evaded, defeated or endured.

Humbled by an insurmountable threat, our ego is deflated and our self-esteem decreased. TMT posits that our reaction to this decrease in self-esteem is to re-invest into life in spite of death as a means of restoring our deflated ego (Solomon, Greenberg, & Pyszczynski, 1991). TMT researchers have categorized two broad methods by which we come to cope with heightened death awareness (Solomon, Greenberg, & Pyszczynski, 1991). First, we attempt to restore our self-esteem by behaving in ways that are reinforcing, rewarding, self-gratifying or ego-bolstering (Pyszczynski, Greenberg, Solomon, Arndt & Schimel, 2004). For example, an individual who identifies strongly as a good athlete may be drawn to participate more vigorously in athletics. For them, competition, demonstrating mastery of their sport and victory may be means of bolstering

their self-esteem and re-affirming their values. The same athlete may also be deterred from competing in sports where they feel their skills are lacking—wanting to maximize their chances of winning and minimize losses.

Second, individuals seek out the company of like-others and strive to be part of a salient in-group—preferably one which supports and defends their current worldview (Pyszczynski, Greenberg & Solomon, 1997). Thus, the athlete may rely heavily on their team, and intentionally put the team before themselves to help their team win. By identifying and being part of a group bigger than the self, the individual borrows from the value and shares in the victory of the group. This also means that for the in-group team to win, it must come at the expensive of some out-group.

Dual Process Theory of TMT

Research into the validity of early theoretical applications of TMT led to the conceptualization of a dual processes theory (Pyszczynski, Greenberg, & Solomon, 1999). Increases in mortality salience are thus either conscious or unconscious. Dual process theory asserts that when an eliciting event brings MS into our consciousness, there are associated defenses that help mitigate the impact of MS and prevent it from elevating DA. These include conscious adaptive processes of distancing (e.g., “I’m too young and healthy for death to apply to me”) or denial (e.g., “Accidents happen every day, but something like that won’t happen to me;” Pyszczynski, Greenberg, & Solomon, 1999). These are proximal defenses that evoke conscious effort of thought modification to suppress the development of anxiety following contemplating death.

Terror management theory is more invested in exploring the unconscious or distal coping strategies by which we decrease our death anxiety (Pyszczynski, Greenberg, & Solomon, 2000). In short, when we are no longer using conscious effort to suppress death anxiety, our increased mortality salience continues to unconsciously influence our decisions. In this case, the lack of mindfulness about death creates a situation by which our behavior may be exaggerated or polarized towards salient. Indeed, research has found evidence for the validity of this distal process in research designs where subliminal exposure to mortality salience cues resulted in exaggerated behavior in accordance to TMT hypothesis (Pyszczynski, Greenberg & Solomon, 2005).

Researchers drawing from TMT have identified a number of potential protective factors which, if present and active in a person's life, could serve to prevent increases in mortality salience from leading to potentially problematic death anxiety. Many traits have been identified as potential death anxiety buffers such as: self-esteem (Greensberg et al., 1993), power (Belmi, & Pfeffer, 2016), close relationships (Florian, Mikulincer, & Hirschberger, 2002), money (Zaleskiewicz, Gasiorowska, Kesebir, & Pyszcynski, 2013) meaning in life (Kesebir, & Pyszczynski, 2014), and religiosity (Soenke, Landau, & Greenberg, 2013). As described by Blustein (2006), work is a conduit through which individuals can come to satisfy their life needs, and in doing so, are also developing a psychological buffer against death anxiety. It is possible that being engaged in work itself, because of its many potential affordances, is among the list of protective buffers.

TMT has demonstrated implications for and interactions with a broad array of domains of life (Burke, Martens, & Faucher, 2010) and this discussion would assert that

these implications could also apply to areas of work, career, and organizational psychology (Grant & Wade-Benzo, 2009). Because finity, death and death awareness are experiences of human universality, theoretical underpinnings have high probability for external validity. In addition, self-esteem, personal and social worldviews and salient identities are all conceptualized from the position of being contingent on one's culture (Pyszczynski et al., 2004); that culture is the implicit equation by which we come to appraise the value of our external social and cultural world. As a result, the methods by which we come to cope with increased mortality salience and death anxiety would also be contingent on cultural differences.

Contributions to the current literature on the function of work would come as a result of empirical evidence that constructs within work/vocational psychology have an anxiety buffering function for coping with existential threats. Finally, insight around both the positive and negative influences of finality and finity as they relate to work and vocation could provide the theoretical foundation for organizational intervention and career counseling; avoiding potential pitfalls of negative psychosocial consequences and enhancing meaning-making and self-actualization efforts for individuals within their work environment.

Organization Neglect of Death

For much of the history of Industrial/Organization and Career/Vocational psychology, death was most likely considered to be outside of the boundaries of work or career counseling. Individuals were traditionally thought to have retired from work in their 60s, and as they transitioned into contemplation of their mortality, transitioned out

of the demographic targeted for intervention by career counselors (e.g., Super et al., 1996). Mourning, grief and bereavement are again, outside of the scope of traditional career counseling and on the rare occasion, addressed only abstractly as the "death of one's career" (Reedy & Learmonth, 2011). Thus, with death considered to be either the end of career development or outside of the boundaries of what career counseling traditionally addressed, finity has been largely overlooked.

This neglect is, however, potentially dangerous. Without knowledge as to the psychosocial consequences of death and our awareness of it, we are left largely subject to their dynamics. The subtle influence of death may be among the countless unconscious processes factoring into career decision-making (e.g., Krishok, Black & McKay, 2009). Work environments may remain unconscious of the ways in which lingering sentiments of death negatively influence the culture of their environment (Stein & Cropanzano, 2011) and individuals are estranged from the potential for positive-appraising/meaning making that the perspective of finity can have on motivation towards enhanced life. By neglecting discussion around finity, we lose out on the opportunity to harness its positive influence, and become ignorant to the ways in which it influences worker and work environments negatively. Rectifying this cannot take place without a holistic recognition of the role that privilege and marginalization can play not only in work but also as it directly impacts an individual's mortality.

More broadly than the call for a greater understanding of finity within the scope of work is the role that work plays in health inequity research as a whole. Work has not been explored in most health inequity research in the United States, especially compared

to models of social and ecological determinants of health (Ahonen, Fujishiro, Cunningham, & Flynn, 2018). Given that work inequity directly impacts socioeconomic status, and varies based on key work demographics (age, race, ethnicity, gender, etc.,) it is necessary to take this context into account when studying mortality salience as a potential health inequity. This is an important consideration when deciding which demographic and personal information to gather, how data and results are informed by demographic differences, and how this information is interpreted as potential opportunities to understand and address health inequities (Landsbergis et al., 2018).

Psychology of Working

The psychology of working framework has attempted to shift vocational psychology from a science of exclusion to one of inclusion (Bluestein, 2006, 2013). Psychology of working offers critique of traditional ideals of vocational psychology whose underlying assumptions posit that work is predictable, contained, decisive and that an individual has agency over their career decision-making process (Blustein & Fouad, 2008). Psychology of working urges a more inclusive conceptualization of work to look at the needs, obstacles and agency of various sociocultural groups. One notable conceptual shift advocated for by Blustein is that work and working are not independent or compartmentalized to be separate from, other domains of life (2006, 2013). Blustein posits that career and work should instead be integrated with other identities to form one's self-concept, considered an integral part of living more interdependent than separate from other pivotal domains (2006, 2013).

The psychology of working framework (PWF; Blustein, 2001, 2006, 2008, 2013) attempts to address the role of work in people's lives in ways that previous theories exclude. That is, earlier theories place internal and individual factors such as self-efficacy, interests, and personal choice in the conceptual foreground, assuming that personal agency is the key ingredient in the direction of career. While some theories do integrate contextual factors, these are conceptually distal to and placed in the theoretical background. Such contextual and structural factors like economic constraints, racialized or gendered discrimination and marginalization receive limited attention in traditional theories of work and career (Duffy, Bluestin, Diemer, & Autin, 2016).

While personal choice and agency may play a larger role for individuals with greater personal and financial resources, PWF posits that it does not adequately explain the experience of people with insufficient access to financial and social capital (Blustein, 2001, 2006, 2008, 2013). A greater emphasis is needed on individuals who are marginalized on the basis of social and cultural factors such as race, ethnicity, social class and gender and age. These contextual factors are brought to the foreground of discussion and research in a continued effort to explore work and working in people's lives from a stance of inclusivity.

An assertion and goal of the Psychology of Working Theory (PWT; Duffy et al., 2016) is to create access to decent work. Decent work is defined as any work environment that provides physical and interpersonally safe working conditions, hours that allow for free time and adequate rest, organizational values that complement family and social values, adequate compensation, and access to health care (Duffy et al., 2016;

Duffy et al., 2017). Obtaining and maintaining decent work is seen as a gateway to three humanistic needs: survival/power, social connectedness, and self-determination (Blustein, 2006, 2008; Duffy et al., 2016). These three outcomes of decent work are assumed to result in psychological well-being and fulfillment/satisfaction at work. As previously mentioned, power, close relationships, and meaning making are also identified as constructs whose presence has the capacity to buffer increases in death anxiety. If decent work provides access to meeting humanistic needs then engagement in vocation and access to work may also serve as a death anxiety buffer. Confirming such insight could further justify the inclusion of mortality as a state of privilege to be addressed within PWF, while at the same time providing support for the importance of the role of work as a buffer to death anxiety and aid to psychological health.

Purpose of the Present Study

The purpose of this study is to bridge vocational/career psychology and theoretical foundations of TMT. Within the PWF, obtaining and maintaining decent work yields means to survival/power, social connectedness and self-determination. Research bridging TMT and vocational psychology, namely the psychology of work theory may not only help marginalized individuals obtain decent work to improve quality of life, but also to live longer, healthier, and more peaceful lives. Therefore, this study will examine work-related buffers of death anxiety to demonstrate the association between constructs of PWF and existing TMT literature using a sample of working adults.

Based on previous theory and research, the following hypotheses will be tested:

1) Participants in a mortality salience condition will report significantly higher death anxiety than a control group.
2) Participants with higher self-reported levels of work meaning, power, self-determination and social-connectedness will report lower death anxiety.
3) The relationship between mortality salience and death anxiety will be buffered by high levels of work meaning, power, self-determination, and social connectedness.

CHAPTER 2: LITERATURE REVIEW

As early as the 1960s, individuals like anthropologist and philosopher, Ernest Becker were beginning to postulate that there were palpable psychosocial consequences for humanity's unique existential relationship with death. Others coming out of the existential school of thought would agree, that human beings are aware of existential threats we cannot overcome (Becker, 1962; Becker, 1973). Becker's work would come to inspire a theory, which attempted to explain the complex ways with which individuals come to cope with the inevitability of death and iconic ending of being.

Ernest Becker's ideas emerged in Terror Management Theory in the mid-80s (TMT; Greenberg, Pyszczynski, & Solomon, 1986). Terror management theory posits that when some reminder of death is presented or elicited, mortality salience is increased—mortality salience being the conscious recognition of the self as a mortal and finite entity. Increases in mortality salience are hypothesized to lead to increases in death anxiety. Death anxiety shares conceptual commonalities with general anxiety in that it is a stress response which activates the sympathetic nervous system and elicits cognitive and biological reactions such as "fight-or-flight." While stress and anxiety are often regarded as threats to health, when the anxiety experienced is proportionate to the threat that one realistically faces, the stress response can be adaptive. Stress and anxiety becomes problematic when it is disproportionate to the threat and thus, undermines one's psychological wellbeing with an exaggerated response (Juhl & Routledge, 2016).

However, death anxiety is unique, because death is unavoidable and insurmountable. As a result, human beings must find indirect methods of coping with death anxiety. When conscious, individuals can placate anxiety of death through temporal distance (e.g., "I am young and healthy, I won't die for another 50 years") or by self-transcendent practices of immortality (e.g., building a monument in one's image that will exist long after they are dead). These conscious strategies may reduce death anxiety in the short-term. However, increases in death anxiety can influence behavior in less direct or conscious ways. These indirect and distal strategies have been placed into two broad categories:

1. Attempts to bolster self-esteem and restore ego-integrity
2. Attempts to defend salient cultural worldview

Social psychology, as the origin of modern TMT, has looked at the broad psychosocial consequences of such strategies to cope with death as it pertains to both individuals and groups of people. Similar to traditional anxiety, research has found both adaptive and maladaptive forms of terror management (or in the maladaptive form, "mismanagement"; Strachan, Pyszczynski, Greenberg, & Solomon, 2001). For example, increases in death anxiety can lead some to pursue investment in salient in-groups, by contributing more to the group through prosocial behavior (Jonas, Schimel, Greenberg, & Pyszczynski, 2002; Hirschberger, Ein-Dor, & Almakias, 2008; Zaleskiewicz, Gasiorowska & Kesebir, 2015) and generativity (Maxfield et al., 2014), thus securing the preservation of the group and their place within it. A similar yet paradoxical strategy may be to marginalize or become hostile towards an identified out-group, especially one with

oppositional or conflicting worldviews. By asserting their dominance over an out-group or a subgroup, the in-group defines their place in the hierarchical pecking order of group "survival of the fittest." Thus, TMT can be used to explain the paradoxical phenomenon of existential motivators as both a drive to prosocial and unifying behaviors as well as xenophobic, racist and other forms of prejudicial attitudes (McGregor et al., 2003; Greenberg & Kosloff, 2008), as well as increases in stereotypical thinking (Schimel et al., 1999).

Death reminders can also serve to threaten one's self-esteem, and as a result, self-esteem needs to be bolstered in order to compensate (Harmon-Jones et al., 1997). However, research has also found that an individual can have a high self-esteem before exposure to death reminders and experience less death anxiety as a result (Greenberg et al., 1992). Less death anxiety would mean less need to compensate through worldview defending or self-esteem bolstering actions. Researchers in the field have thus predicted that one of the major roles of self-esteem is to serve as a buffer to anxiety and stress. However, additional research suggests that if one has a healthy self-esteem, the introduction of a death reminder can serve as a problematic and humbling experience. As a result, one may invest more vigorously in identity salient behaviors as a coping mechanisms to safeguard their threatened ego (e.g., Wirth-Petrik, & Guenther, 2012).

The above could result in another interestingly paradoxical result of taking place in behaviors that are ultimately life threatening as a tool to cope with death anxiety. For example, one study looked at the behaviors of risky driving practices (Ben-Ari, Florian, & Mikulincer, 1999). Those who thought themselves better drivers, would take more

driving risks follow increases in death anxiety. Another study looked at engagement in military in a state where military participation was mandatory. When death anxiety was increased, individuals were more motivated to engage in their military duties (Taubman-Ben-Ari & Findler, 2006). A third study looked at stressful jobs and death anxiety where individuals were given the option between applying for a less stressful and more stressful job. Stress level of the job varied as well as the type of logo that was used; some being foreign companies while others were domestic easily recognizable companies. When a mortality cue was administered, individuals were more likely to choose the high stress job, but only when it was associated with a domestic and familiar company (Wirth-Petrik, & Guenther, 2012. Thus, it seems that through coping strategies to deal with death anxiety, individuals could paradoxically be led to make decisions that (at least statistically) increase one's chance for fatal or chronic, life threatening injury.

To highlight this point, one study examined smoking behaviors and found that warnings of death on cigarette packs could increase smoking behaviors instead of decreasing them (Hansen, Winzeler, & Topolinski, 2010). The authors speculated that if one's self-esteem is in some way tied to smoking behaviors, then attempts to bolster self-esteem following the mortality salience cue of the death threat on the package could actually lead to more positive attitudes about smoking (Hansen, Winzeler, & Topolinski, 2010). This helps retroactively explain some of the failure of "scared straight" tactics of attempting to decrease drug and alcohol use among teens and adults, as TMT implications suggest threats to one's life only motivates them to further justify a maladaptive and self-esteem relevant behavior.

Studies of financial decision-making also support tenets of TMT. Researchers found that under a mortality salience condition, individuals with high, but not low, self-esteem were more likely to engage in high risk-reward situations while individuals with low self-esteem were likely to be risk-averse (Landau & Greenberg, 2006). While this study used a risky social situation, other studies have found that participants under a mortality salience condition demonstrated higher risky decision making on the Iowa gambling task, a virtual card game made to simulate real-life decision making (Hart, Schwabach, & Solomon. 2010) and increases in mortality salience increased urges to gamble among those who were compulsive/problem gamblers (Rockloff, Browne, Li, & O'Shea, 2014). Findings like these could have implications for increased risky investing behaviors, willingness to spend more money on high risk-reward endeavors in hopes of achieving greater financial status, especially when self-esteem is high.

TMT research received greater national attention with regard to in-group, out-group dynamics as it pertained to terrorism in the early 2000's (Pyszczynski, Solomon, & Greenberg, 2003; Das, Bushman, Bezemer, Kerkhof & Vermeulen, 2009). As a result, TMT, originally championed by only a handful of theorists, became more popular in other areas of research and in fields outside of social psychology. This historical perspective is important to considering how TMT research began to focus on matters of religion and politics; with a meta-analysis done in 2010 (Burke, Martens, & Faucher, 2010) depicting a number of experiments whose dependent variable was "support for G.W. Bush". This shift in attention was not exclusive to TMT research however, as a

marked shift in career and job attitudes was also noted in wake of 9/11 (Wrzesniewski, 2002).

As TMT ideas began to broaden in the areas in which it was studied, different researchers began to extend TMT into new topics not yet explored. One such area with scant research is that of vocational and career psychology. Grant and Wade-Benzoni (2009) reflected on the general negligence of occupational psychology:

"*we know little about how death awareness arises in organizations and why employees display divergent reactions when they experience it. Organizational scholars have been silent about the role of death awareness in work motivations (Sievers, 1986, 1993)"*

In regards to the subject of death as a whole and Jonas, Kauffeld, Sullivan and Fritsche's article (2011) with the title "Dedicate your life to the company!" was one of the first to highlight the important role of affiliation with defined organizations as a buffer of and refuge from death anxiety. In their article they make note of the lack of application of TMT research to career or organizational psychology:

> *"It is interesting that to our knowledge, no studies have yet investigated whether people exhibit worldview defense in connection with business organizations, although work environments are clearly important subcultures around relationships between people with emotional and existential needs (Kramer, 2002)"*

Only a single article has cited Jonas et al., namely Salgado, Pues, & de Calvo (2015) whose research determined the role organizational identity plays in one's worldview. Their finding showed that if one identifies with one's company, one is more likely to defend the company when criticized while under the influence of a mortality

cue. Results indicated that MS participants were more likely to defend their in-group, but only if they self-identified with that in-group. While minimal research has been conducted in the area of TMT as it relates to work and vocation, previous findings imply the possible utility of work as it relates to the TMT research.

Psychology of Work and Terror Management Theory

While the subject of death has been largely neglected within the literature in and surrounding vocational and I/O psychology, there are existing discourse whose theoretical framework, namely the Psychology of Work (Blustein, 2006; Blustein 2013), which lends itself to an ease of compatibility with many existing empirical findings from Terror Management Theory. The Psychology of Work framework was developed as a result of critique of previous models of career and vocational psychology whose underlying assumptions were that individuals had some level of agency in their work and career choices. Psychology of Work also borrows from feminist and multiculturalism in an attempt to specifically highlight inequalities between various demographics of peoples in order to create a vocational approach which is holistic, dynamic, and inclusive (Blustein, 2006; Blustein 2013). It is for this reason that the Psychology of Work framework shifts its discussion away from ideas of the career and instead, attempts to place the focus on the meaning of work alone (Blustein & Fouad, 2008).

If the Psychology of Work framework is an attempt at holistic discourse around work in life, then it too must be open to discussion around death, and more specifically, the psycho-social implications of the knowledge of eventual termination of life on an individual's work life. Death itself can be conceptualized as a topic of privilege, with

traditional career development models often assuming that a person's life is in accordance with western life spans and exclusionary of complications or threats to life or health! Different individuals have different life expectancy based on their demographics, and difficulty/obstacles to sustain basic needs for safety and survival are more frequent and impact different demographics of peoples in different ways. Currently, Psychology of Work does not directly address these issues.

Psychology of Work highlights three fundamental needs for work, and thus, highlights the functionality of work and its purpose/role in our lives: (1) Need for Survival/Power, (2) Need for Relatedness, and (3) Need for Self-Determination (Blustein, 2006). Fulfilling these needs are an integral part to the experience of meaning from work. Meaning, and its existential counterpart, meaninglessness, are pillars of existential discussion (e.g., Yalom, 1980), and thus, are closely related to existential discussion on death. Another recent construct whose outcomes are predictive of adaptive meaning making is a concept known as *calling* (Dik & Duffy, 2009. With the ultimate objective of bridging TMT and Vocational Psychology concepts like *work of meaning* and *calling* are included in the discussion to illustrate theoretical similarities with interactions of TMT using the functions of work outlined by Psychology of Working as a framework.

Work as a Means to Survival

For the vast majority of individuals, work is a necessity for meeting basic human needs, such as food, water, shelter, modern amenities, electricity, heat, and plumbing. While it is possible to live in poverty, having and maintaining a job is often a matter of existential life-and-death. It may be for this reason that the symbolic power of money

seems to serve a function not only of meeting survival needs, but also placating existential anxieties; even serving as a buffer to death anxiety (Zaleskiewicz, Gasiorowska, Kesebir, Luszcynska & Pyszcynski, 2013).

Can death anxiety really influence our pull towards survivalist tendencies? Research shows that increases in death anxiety increase materialism, conspicuous consumption, and influence consumer decisions (Arndt, Solomon, Kasser, & Sheldon, 2004). This includes potentially influencing food choices to be more indulgent (Ferraro, Shiv, & Bettman, 2005). Another study found that individuals exposed to a mortality salience cue were greedier, consumed more resources in a game, and had higher expectations for their future self in terms of wealth compared to participants in a neutral stimulus (Kasser & Sheldon, 2000). However, these results do not clearly support a direct association between mortality salience and survivalist consumption. One study found that, following the events of September 11th, individuals that reported a greater fear of becoming a victim of terrorism also showed a greater tendency for brand name (worldview enforcing) consumption and compulsive decision making when consuming (Choi, Kwon, & Lee, 2007). Another study demonstrated that: (1) explicit exposure to an insurance brand increased the accessibility of death-related thoughts, which, in turn, increased personal spending intentions, (2) implicit insurance brand exposure positively affected charity donations, a prosocial act associated with in-group worldview defense, and (3) subliminal brand exposure caused individuals who unconsciously observed an insurance brand to demonstrate greater worldview defending behavior than a control group (Fransen, Fennis, Pruyn, & Das, 2008). These results demonstrate that mortality

salience cues can serve both to motivate survivalist instinct to stockpile resource as well as enhance a bias towards familiar brands associated with one's existing worldview.

Researchers have asserted that materialism in and of itself is not maladaptive (Rindfleisch and Burroughs, 2004). Indeed, an increase in desire to obtain resources seems as though it would be an appropriate reaction to threat of decreased self-esteem in the same way that obtaining water quenches thirst and food satisfies hunger. Also noted are the cultural limitations from which these expressions of consumerism and materialism can be demonstrated, and thus, a note of caution when attempting to generalize TMT results to a global audience. However, if it is indeed the case that death anxiety can influence our consumption behaviors in some ways, albeit contingent on culture, then it is not a theoretical stretch to see how it could also influence the means by which we come to possess these material goods.

As Yaakobi (2015) explains:

"Work, in its broadest context, is one of the main activities with which most people are engaged for a large percentage of their time through their lives and is one of the most basic important activities to modern society"

Researchers have noted that not only is work a necessity to meet one's basic survival needs, it is also of particular cultural relevance; as varying cultures put different degrees of importance on the role of work, and meeting said standards is a means of gaining in-group approval (Yaakobi, 2015). Following this line of reasoning, four studies were conducted. In the first study, a mortality salience cue led to a stronger desire to work than a control cue while the second study demonstrated that activating thoughts of

fulfillment of the desire to work served as a buffer to death anxiety following a mortality salience cue (Yaakobi, 2015). Not only this, but this reduction in death anxiety also reduced ones need for out-group derogation as a means to bolster self-esteem or defend one's worldview, demonstrated in study three. The fourth and final study demonstrated that having participants consider potential obstacles to finding a job led to higher death-thought accessibility, but not higher accessibility of negative thoughts in general. This can be interpreted as becoming more sensitive to mortality salience cues as a result of contemplating inability to work and thus, higher death anxiety and associated consequences. However, this study looked merely at one's desire to work, and not whether or not it caused one to work. It can only be speculated that the actual behavior of working or engaging in one's career interacts with the TMT model. However, additional research is needed to substantiate this hypothesis.

Work as means to Self-Esteem and Power

One of the primary tenets of TMT is dynamic interactions with the concept of self-esteem. Indeed, the "initial impetus for the development of TMT was to address the question of why people need self-esteem" (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004, p. 436). In their empirical review, Pyszczynski et al., operationalized the concept of self-esteem as it is generally understood but also as it applies to TMT. Quoting an 1890 definition given by William James, self-esteem is "a person's evaluation, or attitude toward him- or herself" which Pyszcnski extend to include "and that people are generally motivated to high levels of self-esteem and defend their self-esteem when it comes under threat." (2004). Over the course of their review, they apply additional

addendums to their TMT perspective of self-esteem including (a) a personal value (b) based on belief in one's cultural worldview (c) which determines whether one is living up to standards valued by said worldview that are (d) integrated into a unique individualized worldview by each person. TMT understands self-esteem as a culturally derived construct whose primary role is defensive in nature. As Pyszcnski et al., state (2004):

"*Self-esteem is a protective shield designed to control the potential for terror that results from awareness of the horrifying possibility that we humans are merely transient animals groping to survive in a meaningless universe, destined only to die and decay.*"

It is perhaps the emphasis on the contingency of culture that makes the TMT theory as it pertains to self-esteem both universal in impact yet highly varied in manifestation. Evidence has currently been compiled to demonstrate that self-esteem serves an anxiety-buffering function (for a review, see Solomon, Greenberg, & Pyszcynski, 1991; Speilberger, Gorsuch, & Lushene, 1970; Greenberg et al., 1993), reduces the effect of mortality salience on worldview defense and death-thought accessibility (for a review see Greenberg et al., 1997; Harmon-Jones et al., 1997; Harmon-Jones et al, 1997, Study 3) and that mortality salience increases self-esteem striving (Pyszczynski et al., 2004, Table 3).

Barkow (1989) asserts that self-esteem is developed, in part, as a function of obtaining and maintaining valued place within society and that these "dominance hierarchies" within society are the result of cognitive evolutionary processes developed in our prehistoric ancestors. However, the direct contribution of power in TMT was not clearly defined until recently via research that demonstrated similar TMT properties as

self-esteem; namely a death anxiety buffering effect when perceived power was higher after being exposed to a mortality salience cue (Belmi & Pfeffer, 2016).

Power is defined as "the ability to influence others through the control of resources" (Keltner et al., 2003). According to this definition, power is a function that flirts with economic ideals of resource control and quantity. To dramatically simplify, power can lead to greater resources and social influence, which allows greater opportunity to invest in fulfilling endeavors.

> "*People can then use these resources to create and organize meaningful institutions, such as formal organization and social groups, that can persist into the future (Pauchant, 1995), thereby permitting people to establish a presence that is larger and more permanent than one's physical, mortal self.*"

As alluded to in the above excerpt, Barkow's dominance hierarchy is a potential ladder from which one can climb to obtain power and thus, resources that can be allocated to the preservation of self through indirect means, or forms of symbolic immortality (Deschnese et al., 2003). Work environments, especially industrial corporate structures, are in themselves a dominance hierarchy by which an individual may be promoted from one position to the next, and with each promotion, receive greater influence and authority normally accompanied by increases in monetary salary as well. Research has provided evidence that increased mortality salience lead to a greater desire for financial success (Kasser & Sheldon, 2000); and that money and finances are power-related totems (Belmi & Pfeffer, 2016). Power is depicted as being universal in work organizations, where individuals are differentiated by a hierarchy of power (Pfeffer, 2013) and thus, varying and competing reservoir of resources, financial, interpersonal or otherwise.

It has been asserted that self-esteem and power "go together" such that research comparing the two concluded "changes in self-esteem were completely mediated by changes in affective states" induced by changes in power (Wojciszke, Struzynska-Kujalowicz, 2007). Increased power leads to increases in global self-esteem, while decreases in power reduce self-esteem. While both self-esteem and perceived power are measured subjectively, it is asserted that studying subjective power through mean of subjective social status may more accurately capture the role that work can play in a person's life than merely studying subjective self-esteem.

Work as Means to Self-Determination

The construct of self-determination as one of the basic needs defined by the Psychology of Work framework originates from Self-determination Theory. This is a theory of motivation referring to an authentic mode of being achieved by feelings of authoring the narrative of one's own life (Ryan & Deci, 2000). Self-determination theory asserts that intrinsic motivation to one's work leads to an experience of self-determination. In turn, this motivation is both initiated and sustained by an authentic state of being. The experience of authenticity as both the product and origin of motivation is what differentiates self-determination from other constructs such as self-efficacy, or locus-of-control or other constructs of agency. Self-determination theory goes on to note that "extrinsically motivated activities can be internalized if people value the outcomes of these efforts and if people have access to supportive contextual conditions" (Ryan & Deci, 2000, p71; Deci & Ryan, 1985). In other words, even for individuals whose work is not performed of their own volition and from internal motivation, if the outcomes of the

work are valued by the individual (congruent with Psychology of Work's mission for inclusion). In this way, even individuals with minimal career choices, self-determination can still be attained. Conditions that foster such internalization of external motivators are noted by Self-determination theory as being those that foster autonomy, competence, and relatedness (Deci & Ryan, 1985; Ryan & Deci, 2000).

The need for Self-Actualization both as an authentic mode, and as a source for motivation, can also be extended by Terror Management Theory. In TMT, Death Anxiety is by its nature intrinsically motivating (e.g., Taubman-Ben-Ari & Findler, 2006; Pyszczynski, T., Greenberg & Solomon, 1997; Pyszczynski, Greenberg, & Solomon, 2000). As a form of anxiety, its purpose is to trigger states of arousal to motivate action towards investment into bolstering self-esteem or fortifying one's worldview with the egocentric goal of restoring a deflated self-esteem. What we do to support our self-esteem or defend our worldview is dependent on those things we already identify as being valuable (as informed by relational/social/cultural contexts), and thus, could be experienced as being chosen and performed of one's own internal volition. Successful coping with increased mortality salience decreases death anxiety through restoration of the (authentic) self.

This illustration is widely supported by existentialist sentiments of promoting a state of authenticity as a means of achieving psychological well-being in an otherwise terrifyingly absurd state of being. In particular, Heidegger, whose work *Being and Time* attempts to explain that life is only made authentic through the existence of death and that it is through a conscious awareness of death that we gain the agency to make authentic

choices in life, and that we are ethically obligated to seek out an authentic mode of being (1926/1962). Scholars Reedy and Learmonth have furthered this philosophical discourse to assert that "facing up to death may paradoxically free us from unthinking obedience to norms and enable us to seek more fulfilling forms of work and relationships within organizations" (2011). Perhaps then, death anxiety is merely an intrinsically motivating force urging us towards a state of authenticity (for better or worse).

In general, the basic psychological needs of self-determination theory as well as self-determination itself have been associated with employee performance and wellness with both organizational (e.g., profits) and employee wellbeing (Deci, Olafsen, & Ryan, 2017). Congruently, frustration of basic psychological needs has been associated with work-related stress insisting that fulfillment of basic psychological needs at work promote work well-being, while the lack of these needs degrade work well-being. (Olafsen, Niemiec, Halvari, Deci, & Williams, 2017).

Work as Means to Relatedness

"*What we call thinking, experiencing, memory and creativity are actions in relationships. Even in our private reveries, we are in relationships*" (Gregen, 2009. p63**)**

Work is a gateway by which we access and invest our time and energy into a number of valued relationships. As the third basic human need, which is potentially fulfilled by work, relatedness has been further elaborated and outlined by Blustein into the Relational Theory of Working (Blustein, 2011). Bluestein's theory offers propositions that help to universally demonstrate how interpersonal relationships as well as internalized relational objects are deeply embedded into the ways in which we cultivate

meaning from work; from the personal relationships we establish with those whom we work, to our relationship to our organization, our community our society, and even our culture. Even in isolation, it is stated that our internalized relational objects hold us accountable to some connection or relationship to something external to ourselves.

According to Relational Theory of Work, our relationships are sources of meaning (see "Work as Means to Meaning" for construct definition), mattering (an inherently interpersonal process in which people learn about their efforts and accomplishments via relational and cultural discourse; Marshall, 2001) and dignity (providing access to safe and healthy working conditions, relationships that are characterized by affirmation of diversity, respect for human rights, occupational safety, respectful supervisions, and access to humane policies on work-family life; Blustein, 2006). These outcomes offer a measures of fulfillment which are universal in nature; accessible by individuals no matter their culture, demographics or level of agency or autonomy in their own vocational decision making. In general, social connectedness has been linked to positive health outcomes including greater life expectancy, positive mental health outcomes, and as a protective factor against cognitive decline (Haslam, Cruwys, Haslam, & Jetten, 2017).

Terror Management theory and Relational Theory of Working share a social constructivist view of meaning (e.g., Gregen, 2009). In TMT, self-esteem and cultural world-view are both constructed by our external social-cultural conditioning and self-concept is evaluated by its adherence to the values of said culture (Burke et al., 2010). According to Relational Theory of Working, we make meaning of work largely as a

result of feedback from our relationships with others, our society and our culture (Blustein, 2011). In both cases, relatedness to an external world (or an internalized external objects) becomes the mirror by which we reflect on ourselves and judge the quality and value of our work. Indeed, TMT research has shown that commitment to close relationships serve as a one of the many buffers of death anxiety following a mortality salience cue (Florian, Mikulincer, & Hirschberger, 2002).

In addition, both TMT and Relational Theory of Working acknowledge the potential for both adaptive and maladaptive outcomes based on relational appraisal in work (e.g., Hirschberger, 2008; Blustein 2011). In Terror Management Theory, attempts to defend one's worldview can come as attempts to fortify and support their salience in-group, or in subjugation and hostility towards an outgroup. Whether it is the in-group or the outgroup, Relational Theory of Working would posit, congruent with TMT, that we share some level of relatedness to others, and thus, our actions are rooted in our society and our culture, even if that means the incidental promotion of things like racism or xenophobia (e.g.,Greenberg & Kosloff, 2008). Terror Management Theory, adds an extension to this commentary by providing the antecedent from which relatedness comes to prominence in our decision making and behaviors in the form of an existential antagonist, Death (Pyszczynski et al., 1997).

Work and Meaning of Work

The construct of *meaning of work* posed noted difficulty when attempting to conceptualize due to previous literature having varying foci when applied to research. As a result, a number of different variants of meaning in work have emerged over time. The current discussion utilizes meaning of work as described by Russo, Dekas & Wrzesniewski, whose work attempted to integrate the existing concepts into a unified framework (2010).

There is a distinction made between *Meaning* and *Meaningfulness*. The concept of *Meaning* is taken from the perspective of the "type" of meaning made by an individual about work while *Meaningfulness* "refers to the amount of significance something holds for an individual's" (Pratt & Ashforth, 2003). Four broad reservoirs were identified as potential resources from which work's meaning is appraised (i.e., the Self, Other, Work Context and Spiritual Life) and seven mechanisms were identified as to how work becomes meaningful (i.e., Authenticity, Self-efficacy, Self-esteem, Purpose, Belongingness, Transcendence and Cultural/Interpersonal)

There is also noted difference between "*meaning in work*" and "*meaning of work*. Dik et al. delineate the two constructs, (2015) defining *meaning of work* as "what exactly provides people with the meaning they experience" while *meaning in work* as refers to a quantity or amount of meaning experienced (i.e., How meaningful is your work?). It is possible that all of the reservoirs and mechanics outlined by Russo et al., are resources from which meaning can be extracted for both the quality and quantity of meaning derived from work (2010).

Research into *meaning of work* has yielded important outcomes across research of organizations including work motivation (Hackman & Oldham, 1980; Roberson, 1990), absenteeism (Wrzesniewski, McCauley, Rozin, & Schwartz, 1997), work engagement (May, Gilson, & Harter, 2004), job satisfaction (Wrzesniewski et al., 1997), organizational identification (Pratt, Rockmann, & Kaufmann, 2006), individual performance (Hackman & Oldham, 1980; Wrzesniewski, 2003), and personal fulfillment (Kahn, 2007; for full review, see Rosso et al., 2010). From an organizational perspective, enhancing the meaning of work within an environment or for working individuals is an instrumental strategy for mitigating organizational disruptions and edifying the organization itself. From an individual perspective, discovering meaning in work is a potential means to self-determination and self-actualization.

Work as Means to Meaning.

> *"It doesn't matter whether the cultural hero-system is frankly magical, religious, and primitive, or secular, scientific and civilized. It is still a mythical hero system in which people serve to earn a feeling of primary value, or cosmic specialness, of ultimate usefulness to creation, of unshaking meaning. (Becker, 1973)"*

With the antagonist of TMT being the inevitable event of death, TMT has great value to add to the philosophical dialogue of existentialists. The purpose of strategies of terror management is for an individual to maintain that they are "an object of primary value in a world of meaningful action" (Ernest Becker, 1971) and not merely a complex and finite biological machine lacking defined purpose or particular significance. Indeed, this aligns with existentialism, a philosophy that denies that there is a central and universal purpose to being and leaves the meaning making process in the hands of each individual. Sentiments of philosophers like Kierkegaard, Heidegger, Nietzsche and Sartre

were later adopted into methodologies of psychotherapy as early as 1959 with Viktor Frankl's "Man's search for meaning" (the book was actually published first in 1947, through didn't make its debut in English until 1959). Championed by Irvin Yalom, both death and meaninglessness were highlighted as two of four "Ultimate concerns" by which individuals would need to cope in order to maintain positive mental health. Viktor Frankl's "Logotherapy" (1986) places the "Will to Meaning" at the center of psychological health and that inability to forge meaning out of life experiences, or getting caught in patterns of distraction and dissatisfaction through pursuits of power or pleasure, can lead to existential wounds, maladaptive behaviors and psychological disorder. The thread of meaning and death are so closely related that there has been evidence that invoking thoughts of existential meaning increased death thought accessibility (King et al., 2009; Taubman-Ben-Ari, 2011).

Given the close proximity of existential philosophy, psychotherapy, and TMT, it comes as a surprise that there has been relatively little research applying these concepts. Research on meaning has faces similar difficulties as literature on *meaning in work*, including but not limited to the operationalization of the term 'meaning' and how to study it. One meta-analysis looking at meaning and health outcomes derived six different definitions yet related constructs observed in research including "meaning", 'sense of coherence", "global meaning", "subjective meaningfulness; purpose", "Meaning-making; search for meaning" and "Post-traumatic growth (PTG), Stress-related growth (SRG), Benefit-finding (BF)" (Roepke, Jayawickreme, & Riffle, 2013, Table 1). Another integrative review discussed the important difference between "meaning seeking" and

"meaning-making" highlighting the fact that external events can initiate or motivate meaning-seeking behavior (Park, 2010). However, this does not guarantee that meaning will be found which could potentially lead to rumination and prolonged distress (e.g., Michael & Snyder, 2005).

Within TMT, meaning has been given two broad operationalization's at both micro and macro levels (Kesebir & Pyszczynski, 2014). Micro-meaning involves being able to recognize the rational if-then relationship of external events. This cause-and-effect understanding of the external world is considered micro because it is often taken for granted as a natural part of the learning and mastery processes and is in most cases "ubiquitous and effortless" (King, 2012).

In contrast, "macro-meaning" is an appraisal process by which one comes to determine the significance and worth of something in relation to the value of all other things. To do something meaningful, according to this line of reasoning, is to do something that is the most relatively valuable. These ideas flirt with spiritual matter and "cosmic meaning", which is attuned to some overall coherent absolute plan from which one's life plays a small yet significant part in. This definition contrasts with the idea of terrestrial meaning, which is one's self ascribed meaning during their mortal time on earth. Indeed, ideas of cosmic and divine meaning have attracted TMT researchers to explore the existential utility of religious and supernatural beliefs and practices (for a comprehensive review, see Vail et al., 2010).

However, only a handful of articles have attempted to more directly create a link between meaning and TMT. One study found that individuals presented with obscure and

meaningless modern art showed reduced appreciation for the art following a mortality salience cue; unless the artwork also had a title which gave it meaning (Landau, Greenberg, Pyszczynski, & Martens, 2006). It was inferred that as a result of the mortality salience cue there was increased dissatisfaction with that which seemed arbitrary or meaninglessness. The first study examining meaning-in-life as it relates to TMT showed that mortality salience increases death anxiety for individuals who scored lower on meaning-in-life scales. These findings were confirmed by a series of studies that found an effect from death anxiety to meaning-in-life mediated by self-esteem (Taubman-Ben-Ari, 2011); individuals with higher self-esteem perceived higher meaning in life after a mortality salience cue while those with lower self-esteem reported lower meaning in life. Indeed, this is congruent with previous ideas of the close association between self-esteem and meaning in life (Baumeister, 1991; Heine, Proulx & Vohs, 2006).

In general, meaningful work has been linked to many positive work and life outcomes. Recent meta-analysis has yielded a number of positive desirable correlations including large correlations ($r = 0.70+$) with work engagement, work commitment, and job satisfaction; moderate to large correlations ($r = 0.45$ to $.69$) with life satisfaction, life meaning, general health, work motivation, organizational commitment, work hope, efficacy and positive affect, and small to moderate correlations with organizational citizenship behaviors, self-rated job performance and work relationships. In addition, perceptions of meaning work were also negatively related to undesirable outcomes such

as turnover intentions, withdrawal intentions, burn out, work stress, and counterproductive behaviors. (Hu & Hirsh, 2017; Allan, Batz-Barbarich, Sterling, & Tay, 2018)

CHAPTER 3: METHOD

This chapter addresses characteristics of the sample included in this study, instruments used to measure constructs, and the research design implemented to test research hypotheses.

Participants and Procedure

Participants were recruited from an online crowdsourcing internet marketplace, Mechanical Turk (MTurk). A Human Intelligence Task (HIT) was created directing potential participants to complete a survey for a study of "Work and Lifestyle." Previous research using MTurk has yielded favorable results in gathering data in a short amount of time and for a relatively inexpensive cost (Buhrmester, Kwang, & Gosling, 2011). Participants were compensated for their time at a rate of a single cent USD per question answered and only under the circumstances that all answers have been answered for a total of 83 cents.

Following completion of informed consent, participants were asked to complete measures of work meaning, perceptions of power, social connectedness and self-determination. They were given a mortality salience cue used in previous terror management theory research or a benign control cue for the control group (MAPS; Rosenbatt, Greenberg, Solomon, Pyszcynski, & Lyon, 1989). This mortality salience cue used a single question version of the original Mortality Attitudes Personality Survey *(*MAPS-IQ; Dechesne et al., 2003*)*. Participants were asked to write, in one sentence, the

first thing that comes to mind when thinking about death. Literature using written mortality salience cues have demonstrated a statistically significant difference in death anxiety scores between both explicit mortality salience cues and a benign control cue as well as written cues of other sorts of nonfatal aversive experience (i.e., dental pain, social exclusion, future worrying; Burke, Martens, & Faucher, 2010). The control question asked the participant to write one sentence to describe their favorite movie. Following the mortality salience cue, participants were given additional filler questions as well as a brief survey collecting demographic information to serve as a brief gap between the mortality salience cue and assessment of death anxiety, as described in literature on best practices in TMT research (Pyszczynski, Greenberg, & Solomon, 1999). Filler questions included six additional questions asking both control and experimental groups of participants to write single sentence responses to personal opinion questions unrelated to the subject of death/dying. (e.g., "Write one sentence describing a childhood role model."). Finally, participants were given a measure of death anxiety.

These surveys were presented via a link on the HIT leading to a Qualtrics survey completed by the participant. The HIT remained open until preset sample cap was reached or until adequate power was met. Each participant was awarded compensation following confirmation of full completion of the survey material.

Measures

Demographic questionnaire. Participants were asked to complete a brief demographic questionnaire that will include questions regarding age, gender,

race/ethnicity, income level, hours worked and occupation type (e.g., part-time employee, full-time employee, self-employed).

Work and Meaning Inventory (WAMI; Steger, Dik, & Duffy, 2012). The WAMI is a brief measure of perceived meaning in one's work. The WAMI consists of 10 questions in three subscales: positive meaning made, (e.g., "I have found a meaningful career"), meaning making through work (e.g., "I view my work as contributing to my personal growth") and greater good motivation (e.g., "I know my work makes a positive difference in the world"). Items are scored on a Likert scale from 1 ("*absolutely untrue*") to 5 ("*absolutely true*"). The WAMI has demonstrated adequate internal consistency (α =.93) as well as convergent, discriminant and concurrent validity (Steger et al., 2012).

MacArthur Scale of Subjective Social Status. The MacArthur scale of subjective social status is a subjective measure of an individual's perceived relative social status (Adler, Epel, Castellazzo, & Ickovics, 2000; Operario, Adler, & Williams, 2004). Participants are shown a graphic of a ladder with ten rungs where the top of the ladder are people who have the highest standing in their community and people at the bottom are people who have the lowest standing in their community. Participants are then asked to rank themselves on a scale of 1 to 10 where they believe they stand relative to others on the ladder where each number corresponds with its respective rung on the graphic. The Macarthur Scale has been used in studies associating self-rated socioeconomic status with middle-aged mortality differences (Kopp, Skrabski, Réthelyi, Kawachi, & Adler, 2004). Socioeconomic status has been associated with increased perceived power in research examining mortality salience. (Belmi & Pfeffer, 2016).

Social Connectedness Scale -- Revised *(*SCS-R; Lee & Robbins, 1995; Lee, Draper & Lee, 2001*).* The SCS-R is a 20-item measure of one's sense of social connectedness and belongingness. The original scale has been modified for the sake of this research study to better capture social belongingness as it pertains to work environment by specifying a work context for each question: (e.g., "I am able to connect with other people at work", "Even among my coworker, there is no sense of brother/sisterhood"). Items are rated on a Likert scale ranging from 1 ("*strongly disagree*") to 6 ("s*trongly agree*") were negatively worded questions are reversed scored so that higher scores reflect a higher sense of social connectedness. Prior to being modified to more specifically study social connectedness in a work setting, the SCS has demonstrated good internal consistency ($\alpha = .92$) as well as test-retest reliability (.96). The SCS has been shown to be positively correlated with social assurance (Lee et al., 1995).

Self-Determination Scale (Deci et al., 2001; Ilardi, Leone, Kasser, & Ryan, 1993; Kasser, Davey, & Ryan, 1992*).* The Basic Psychological Need Satisfaction Scale is a 21-item measure used to assess intrinsic work satisfaction featuring three subscales for self-determination (e.g., "I feel like I can make a lot of inputs to deciding how my job gets done.") competence (e.g.," I enjoy the challenge my work provides") and relatedness (e.g., "I really like the people I work with"). Items are scored on a Likert scale from 1 ("*not at all true*") to 7 ("*very true*"). The SDS has demonstrated good internal consistency ($\alpha = .89$) among a U.S sample as well as for the subscales (.73, .84, .79 for competence, relatedness and self-determination respectively; Deci et al., 2001). The scale

has been positively correlated with work performance and psychological adjustment to work (Baard, Deci & Ryan, 2004).

Death Anxiety Scale (DAS; Conte, Weiner, & Plutchik, 1982). The DAS is a 15-item measure of perceived death anxiety with four subscales including Fear of the Unknown (e.g., "Are you worried about not knowing what to expect after death?"), Fear of Suffering (e.g., "Does it upset you to think others may see you suffering before you die?"), Fear of Loneliness (e.g., "Do you worry that you may be alone when you are dying?"), and Fear of Personal Extinction (e.g., "Do you worry about dying?"). Items are scored on a Likert scale where 0 ("*not at all*") to 2 ("*very much*"). The DAS has demonstrated good internal consistency (α =.83) and test-retest reliability (.87) with no significant differences found based on sex or age. The DAS demonstrated evidence for both construct and concurrent validity as well as discriminant validity of the individual items (Conte, Weiner, & Plutchik, 1982).

Validity Questions. Within the battery exist two validity questions whose intention is to insure adequate comprehension and attention. Participants were informed that they may not be compensated if they failed to provide evidence of validity by correctly answering these validity questions and failure to complete either validity question resulted in exclusion of data from the data set. These questions include "If you are a human, please select "2" so that the researcher can credit you." and "If you are human, please choose the "Absolutely Untrue" option for this question in order to be compensated."

Power Analysis

An a priori power analysis was performed using G*Power software. Parameters were set to include a p-value of .05 and power of .80 with two identified groups to estimate adequate sample size. A meta-analysis on existing TMT research reported effect sizes ranging from r = -.48 to r = .99 with an overall effect size of r = .35 (Burke, Martens, & Faucher, 2010). For experimental designs exploring the existence of potential moderators of the relationship between mortality salience and various outcomes, an effect size of r = .35 was found (Burke, Martens, & Faucher, 2010). Results of previous research thus have an approximately medium to strong effect size as characterized by benchmarks by Cohen (1992) where a medium effect is r = .24 and a large effect is r > .37.

Using G*Power software, a medium effect size (f = .25), using an alpha of .05 between two independent groups yielded a total sample size of 128 participants for adequate power. However, using a more conservative estimate of a small to medium effect size (f = .175), I attempted to obtain a minimum sample size of 260 participants for this study.

Data Analysis

The procedures outlined by Scholmer, Bauman and Card (2010) were utilized to account for missing data. The number of missing data as a percentage of complete data and the pattern of missingness was assessed to determine the most appropriate method for handling missing data. Outliers were identified and handled utilizing best practices outlined by Aguinis, Gottfredson and Joo (2013). Research has demonstrated that the

removal of outliers does not affect statistical significance testing or error rates (Bakker & Wicherts, 2014).

Following data cleaning, data analysis was completed using one-way ANOVA to determine statistically significant differences in means of responses between control and experimental groups. Prior to conducting ANOVA analysis, preliminary tests were conducted to verify assumptions of ANOVA. Specifically, Shapiro-Wilk's test was used to assess normality and Levene's test was examined to assess equality/homogeneity of variance.

To test the hypothesis that there is a conditional effect from mortality salience to death anxiety that is buffered by the vocational constructs (i.e., work meaning, power, self-determination and social-connectedness), moderation analysis was conducted using each of the vocational variables as a moderator. The SPSS PROCESS macro (Hayes, 2013) was used to conduct moderation analyses. Statistically significant changes in R^2 values was examined via *F*-tests run for each moderator variable. Significant R^2 changes and interaction effects were probed at 1 standard deviation above and below the mean to determine the nature of the conditional effects (Frazier, Tix and Barron, 2004).

CHAPTER 4: RESULTS

The goal of this study was to address the gaps in the literature between vocational psychology and existential psychology as informed by terror management theory. This study was conducted with a sample of adults in the United States recruited via the online crowdsourcing platform, Mechanical Turk. The study had three aims: (a) to test whether individuals in the mortality salience cue condition would report significantly higher death anxiety than a control group; (b) to determine if higher self-reported levels of work meaning, power, self-determination and social-connectedness has a significant relation with death anxiety; and (c) to determine if the relation between mortality salience and death anxiety was buffered by higher levels of work meaning, power, self-determination and social connectedness. A larger objective of this study was to bridge the gap between vocational and existential theory as a basis for continued study.

Data Preparation

Participants completed the study via an online survey through Qualtrics. Survey data was downloaded directly from Qualitrics and exported to SPSS 24.0 software. The data file was examined for entry errors as well as missing data. Of the 431 participants exported, 86 were removed for failing to either complete all the survey measures or for not completing the informed consent form. An addition 128 participants were removed for having I.P. addresses outside of the United States. Because the remaining participants had less than 20% of survey data missing, multiple imputation was utilized to replace

missing values. Following multiple imputation, Mahalanobis' distance was calculated for each participant to detect outliers. Two participants were removed due to Mahalanobis distance values with p-values < .001.

Study Participants

The final sample consisted of 216 participants. The demographic characteristics of the sample are presented in Table 1.

Table 1.
Demographic Characteristics of the Sample (N = 216)

Variables		*n*	*%*
Gender	Male	105	48.6
	Female	111	51.4
Age	18 – 24 years old	21	9.7
	25 – 34 years old	91	42.1
	35 – 44 years old	55	25.5
	45 – 54 years old	34	15.7
	55 – 64 years old	18	8.3
	65 – 74 years old	7	3.2
Race/Ethnicity	Asian/Asian American	18	8.3
	Black/African American	14	6.5
	Hispanic/Latino	10	4.6
	White/Caucasian, European, not Hispanic	163	75.5
	Native American or American Indian	2	0.9
	Multiracial/Multiethnic	7	3.2
	Option not provided: Persian	1	0.5
	Option not provided: Unknown/Adopted	1	0.5
# of Hours work per week	0 hours	6	3.3
	1 – 10 hours	7	3.8
	11 – 20 hours	8	4.4
	21 – 30 hours	15	8.3
	31 – 40 hours	99	55.0
	41 – 50 hours	38	21.1
	51 – 60 hours	5	2.7
	61 – 70 hours	0	0.0

	71 – 80 hours	2	1.1
Types of work (in the past month)	Full-time work	156	63.7
	Part-time work	29	11.8
	Self-employed	33	13.5
	Students	7	2.8
	Volunteer Work	9	3.7
	Caretaker work	2	0.8
	Retired	4	1.6
	Option not provided: Disabled	1	0.4
	Option not provided: Housewife	1	0.4
	Option not provided: Unemployed	3	1.2
Estimated Income from work	Less than $20,000	67	32.4
	$20,000 to $34,999	48	23.1
	$35,000 to $49,999	37	17.9
	$50,000 to $74,999	31	15.0
	$75,000 to $99,999	12	5.8
	Over $100,000	12	5.8

Preliminary Analyses

Instruments used in this study measured: perceived meaning in one's work (Work and Meaning Inventory, WAMI; Steger, Dik, & Duffy, 2012), subjective social status (MacArthur Scale of Subjective Social Status; Adler, Epel, Castellazzo, & Ickovics, 2000; Operario, Adler, & Williams, 2004), social connectedness and belongingness in work environments (Social Connectedness Scale – Revised. SCS-R; Lee & Robbins, 1995; Lee, Draper & Lee, 2001) intrinsic work satisfaction and self-determination (Basic Psychological Need Satisfaction Scale, BPNS. Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001; Ilardi, Leone, Kasser, & Ryan, 1993; Kasser, Davey, & Ryan, 1992) and perceived death anxiety (Death Anxiety Questionnaire, DAQ; Conte, Weiner, & Plutchik, 1982). Descriptive statistics for each instrument, including Cronbach's alphas, are presented in Table 2.

Table 2.
Descriptive Statistics and Cronbach's Alphas for Study Variables

	M	*SD*	*Min*	*Max*	*Range*	*α*
WAMI Total	*35.81*	*0.67*	*10*	*50*	*40*	.953
BPNS Total	*105.42*	*1.44*	*49*	*147*	*98*	.933
SCS-R Total	*82.87*	*1.09*	*30*	*113*	*83*	.918
MacArthur SES Total	5.08	1.76	*1*	*10*	*10*	--
DAQ Total	26.50	0.44	*15*	*45*	*30*	.858

Note. $N = 216$

Testing of assumptions. Statistical assumptions for regression analysis were assessed based on recommendations by Hayes (2013), Hayes and Preacher (2010), and Field (2013). To minimize error, the relation between predictor and criterion variables should be linear (Hayes, 2013). To examine linearity, a multiple regression analysis was run for each moderator, and each regression was assessed for the assumption of linearity. All associations met assumptions of linearity.

Across all predicted Y values, estimated errors should be nearly equal. If not, then there would not be heteroscedasticity, which would affect the standard error of the regression coefficients (Hayes, 2013). To check homoscedasticity, the same plots for linearity were examined. The data appeared to be spread consistently with a constant vertical range. In addition, a test of homogeneity of variances was run including each variable. None of observed the Levene statistics were significant.

Cronbach's alphas were examined to test the assumption that variables were measured without error (Tavakol & Dennick, 2011). Cronbach's alphas were computed for each total scale reported in each corresponding descriptive table. As seen in Table 2, Cronbach's alphas ranged from .858 on the DAQ to .953 on the WAMI (excellent). Due

to the good to excellent Cronbach's alphas for the total scales, the assumption that variables were measured with minimal error was met. To examine assumption that error should be normally distributed, Q-Q plots were created for each dependent and independent variable. The data indicated normality.

The assumption of normality for the total scales was tested by using histograms as well as skewness and kurtosis values. The indices of acceptable limits of +2 or -2 were used (Trochim & Donnelly, 2006; Field, 2013; Gravetter & Wallnau, 2014). The sample range for the WAMI was 10 to 50 with a skewness of -.820 (*SE* = .116) and kurtosis of .181 (*SE* = .330). The sample range for the BPNS was 49 to 147 with a skewness of -.036 (*SE* = .166) and kurtosis of -.601 (*SE* = .330). The sample range for the SCS-R was 30 to 113 with a skewness of -.557 (*SE* = .166) and kurtosis of .265 (*SE* = .330). The sample range for the MacArthur SES scale was from 1 to 10 with a skewness of -.082 (*SE* = .166) and kurtosis of -.635 (*SE* = .330). The sample range of the DAQ was from 15 to 45 with a skewness of .166 (*SE* = .166) and kurtosis of -.497 (*SE* = .330). All observed skewness and kurtosis were within acceptable limits and all histograms were approximately normal.

Independent Variables

Table 3 presents the Pearson bivariate correlations for the demographic variables, and total scales of measures used in the study. Perceived death anxiety was significantly correlated in the expected directions with meaningful work, self-actualization, and social connectedness. Perceived death anxiety was not significantly correlated with SES, however, was significantly correlated with the amount of money participants reported

making per month. Meaningful work, work connectedness, self-actualization and perceived SES all negatively correlated with death anxiety with significant correlations for meaningful work, work-connectedness and self-actualization. Bivariate correlation analysis was used to provide support for the second hypothesis, that participants with higher self-reported levels of work constructs would report lower death anxiety.

Table 3.
Correlations among Study Variables

Variables	1	2	3	4	5	6	7	8	9
1. WAMI	--	-.163*	.584*	.621**	.329**	.032	.097	.103	.066
2. DAQ		--	-.235**	-.194**	-.073	-.081	-.008	-.137*	.137*
3. BPNS			--	.782**	.351**	.113	.092	.124	-.020
4. SCS-R				--	.256**	.074	.090	.073	-.011
5. SES					--	-.041	.100	-.025	.288**
6. Age						--	-.076	-.169*	-.131
7.HWPW							--	-.112	.118
8. Gender								--	-.056
9. MPM									--

Note. Variable abbreviation meanings. * $p < .05$, **$p < .01$.

Primary Analyses

The PROCESS macro (Hayes, 2013) for SPSS 24.9 (IBM Corp., 2015) was used to examine the relation between vocational and work constructs and death anxiety. Figure 1 depicts the moderation model that was tested. The moderating variables (M; meaningful work, self-actualization, social connectedness and perceived SES) were

hypothesized to moderate the relationship between the independent variable (X; mortality salience) and the dependent variable (Y; death anxiety).

That is, mortality salience was hypothesized to predict death anxiety and this relationship would be moderated by the magnitude of each of the four work constructs. Regression analysis provided estimates of effects for the dependent and independent variables (b_1) the moderating variable and the independent variable (b_2) and between the interaction variable (XM) and the independent variable (b_3) as illustrated in Figure 2.

Manipulation Check.

A One-way ANOVA was conducted to test the effect of mortality salience on death anxiety. More specifically, the ANOVA analysis looked to compare the control and experimental groups to confirm that the study manipulation was successful. An analysis of variance showed that the effect of mortality salience on death anxiety was significant (Cohen's $d = .294$, $F = 4.649$, $p = .032$).

Multiple Regression

Multiple linear regression was performed to test the study hypotheses. Figure 1 illustrates the conceptual diagram for the simple moderation model tested in the study. Figure 2 illustrates the statistical diagram used in the study including the experimental independent variable, the moderator and the interaction effect between both independent variable and the moderator on the dependent variable.

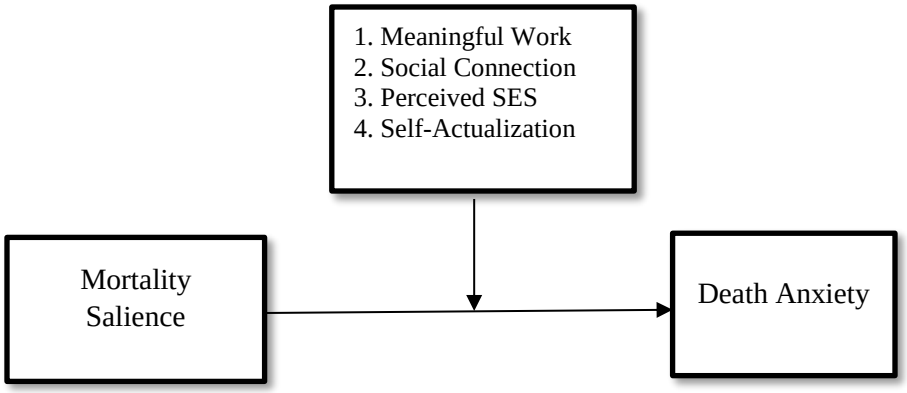

Figure 1. Simple Moderation Conceptual diagram.

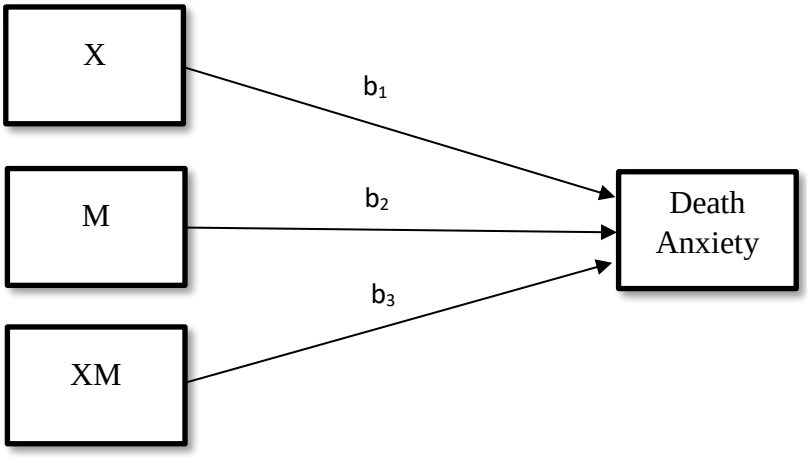

Figure 2. Simple Moderation Statistical Diagram. Note: b_1 is effect of the independent variable (X) on death anxiety; b_2 is the effect of the moderating variable (M) on death anxiety and b_3 is the effect of the interaction between the independent variable and the interaction variable (XM) on death anxiety.

Model 1. Regression analysis was used to investigate the hypothesis that meaningful work was a moderator of death anxiety. Results (see Figure 3) indicated that work-meaning had a significant association with death anxiety (*b*= -.1462, t(212) = -2.2151, *p* = .0278). Death anxiety (*b*= -1.5331, t(212) = -.4655, *p* = .6420) and the interaction variable (*b*= .0889, t(212) = 1.0035, *p* = .3168) were not predictive at the .05 level, however. The effect of the variables collectively explained a significant amount of variance in death anxiety. (F(3, 212) = 3.53, *p = .0158, R^2 = .0475*).

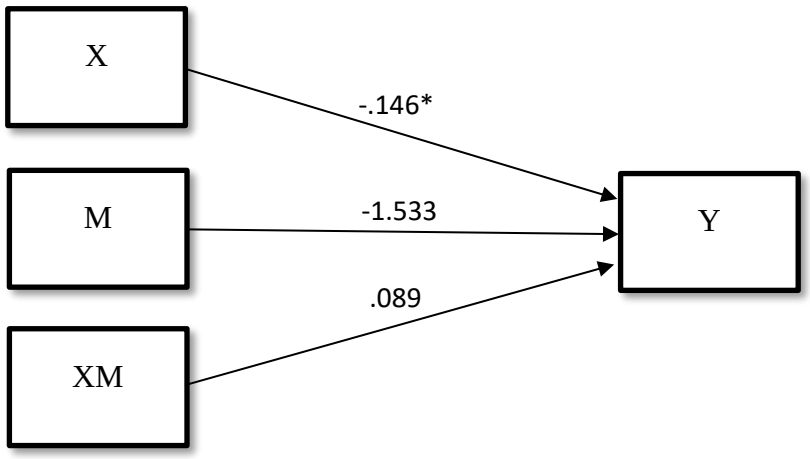

Figure 3. Model 1 with Beta Weights. Note. X = Mortality Salience, M = Meaningful Work, XM = interaction effect, Y = Death Anxiety
*p < .05, ** < .01

Model 2. Regression analysis was used to investigate the hypothesis that work place social connection as measured by the SCS-R was a moderator of death anxiety as measured with the DAQ. Results (see Figure 4) indicated that SCS-R has a significant association with death anxiety at the .05 threshold (*b*= -.1197, t(212) = -3.2059, *p* = .0016). Neither the independent variable (*b*= -5.0301, t(212) = -3.2059, *p* = .2608) nor the interaction variable (*b*= .0835, t(212) = 1.5799, *p* = .1156) yielded effects which were significant at the *p* = .05 level. The effect of the of the variables collectively explained a significant amount of variance in death anxiety (F(3, 212) = 5.3542, *p = .0014, R^2 = .0704).*

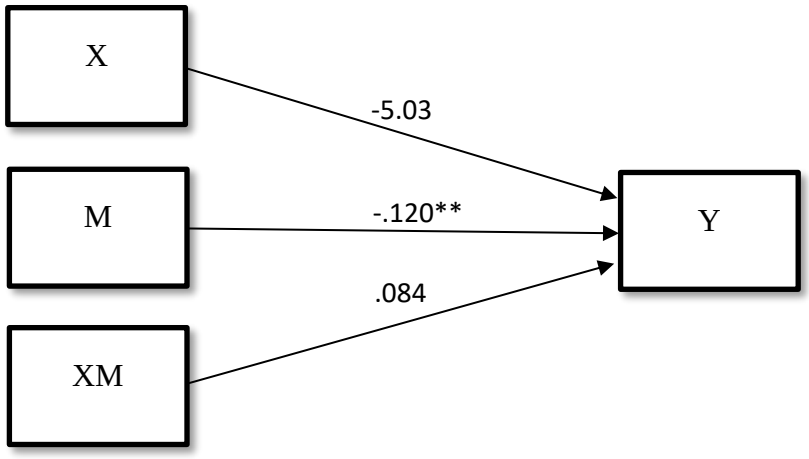

Figure 4. Model 2 with Beta Weights. Note. X = Mortality Salience, M = Social Connection, XM = interaction effect, Y = Death Anxiety
*$p < .05$, ** < .01

Model 3. Regression analysis was used to investigate the hypothesis that the perceived power as measured by the MacArthur SES Ladder was a moderator of death anxiety as measured with the DAQ. Results (see Figure 5) indicated that none of the effects tested within this model were significant at the p = .05 level. This includes the association between mortality salience and death anxiety (*b*= .186, t(212) = .068, *p* = .95), between SES and death anxiety (*b*= -.344, t(212) = -.944, *p* = .37) and the interaction between mortality salience, SES, and death anxiety (*b*= .3087, t(212) = .611, *p* = .54). The resulting model did not explain a significant amount of variance in death anxiety. (F (3, 212) = 1.8422, *p = .14)*

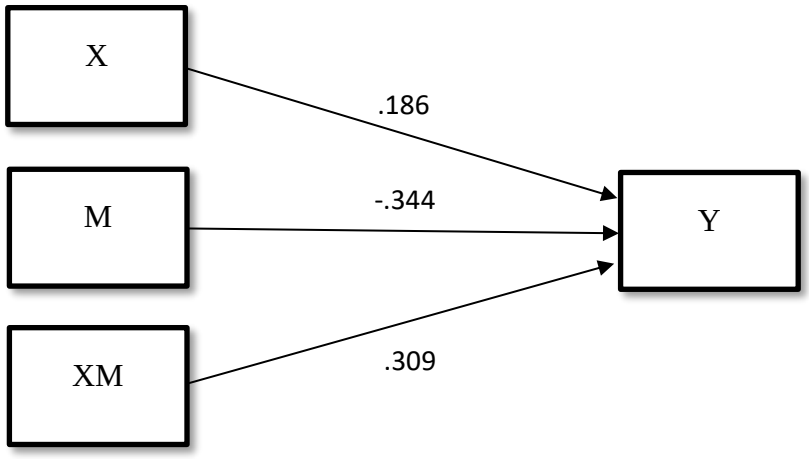

Figure 5. Model 3 with Beta Weights. Note. X = Mortality Salience, M = MacArthur's SES Scale, XM = interaction effect, Y = Death Anxiety
*$p < .05$, ** < .01

Model 4. Regression analysis was used to investigate the hypothesis that work self-actualization as measured by the BPNS was a moderator of death anxiety as measured with the DAQ. Results (see Figure 6) indicated that the effect of the moderating variable was significantly associated with death anxiety (b= -.1035, t(212) = -3.5726, p < .01). However, both independent variables (b= -5.1226, t(212) = -1.1949, p = .2335) and interaction variables (b= .0650, t(212) = 1.6313, p = .1043) were non-significant at the p = .05 level. The effect of the of the variables collectively explained a significant amount of variance in death anxiety (F(3, 212) = .0849, $p = .0003$, $R^2 = .0849$).

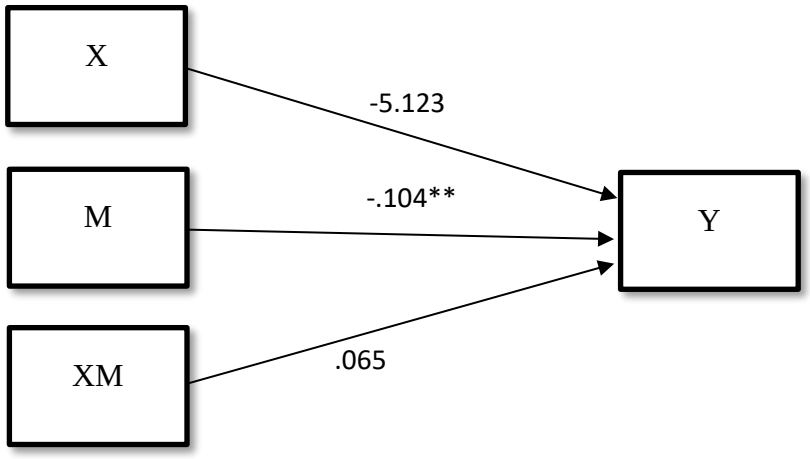

Figure 6. Model 4 with Beta Weights. Note. X = Mortality Salience, M = Self-Actualization, XM = interaction effect, Y = Death Anxiety
*p < .05, ** < .01

CHAPTER 5: DISCUSSION OF FINDINGS AND CONCLUSIONS

In this concluding chapter, I will summarize and discuss further the results of the study. The first hypothesis was that participants in a mortality salience condition would report significantly higher death anxiety than a control group. The purpose of this hypothesis was to assert that, similar to previous studies on death anxiety and mortality salience, that we could manipulate the variable of mortality salience via the introduction of a mortality salience cue. Results showed a significant difference between the mortality salience group and the control group on reports of group death anxiety implying that the experimental manipulation was successful in differentiating death anxiety between groups based on the difference in the cue.

The second hypothesis was that participants with higher self-reported levels of work meaning, power (as determined by subjective social status), self-determination and social-connectedness would report lower death anxiety. For this hypothesis, correlational data was used to observe the relationship between death anxiety and the respective work constructs. Each construct was significantly and negatively correlated with death anxiety. The exception was socioeconomic status which was the proxy for measuring power, which was negatively correlated but not shown to be statistically significant. This is the first time that measures specifically observing work constructs have been used to research associations with death anxiety. Collectively, these results suggest that higher death

anxiety is associated with lower work meaning, self-determination and social-connectedness.

The third hypothesis was that the relation between mortality salience and death anxiety would be buffered by high levels of work meaning, work calling, self-determination and social-connectedness. The purpose of this hypothesis was to provide evidence for these desirable work constructs as serving as a mortality salience buffer as outlined in previous terror management theory (e.g., Greensberg et al., 1993). However, moderator analysis for the respective constructs did not produce statistically significant interactions. Results suggest the work constructs observed in this study do not serve as significant moderators of death anxiety, and thus, do not provide conclusive data to support that work meaning, work social connectedness, subjective social status and self-actualization serve as death anxiety buffers following increases in mortality salience.

These findings are in contrast with previous studies, which have demonstrated that meaning in life and perceived personal power have a moderating effect on death anxiety and thus serve as potential death anxiety buffers (Belmi, & Pfeffer, 2016). Because work in its many forms is a significant part of many people's lives, as well as a key part of the current social narrative, hypotheses reflected assumptions that work and vocation would placate death anxiety. However, correlational data would suggest that a relationship does exist between the observed work constructs (with the exception of subjective social status) and death anxiety. However, this is not a causal relationship; the support of the second hypothesis does warrant further exploration as to the nature of this relationship.

Further exploration into the experiment itself might yield some insight as to why the non-significant findings for the third hypothesis, that the relation between mortality salience and death anxiety was buffered by higher levels of work meaning, work meaning, subjective social status, self-determination and social connectedness. First, all measures were in self-report format and consisted of measures which had been used in previous research on either terror management theory or vocational psychology research. The exception of this was the work social connectedness scale which was revised from a general social connectedness scales. However, psychometric data on the previous scale as well as Cronbach's alpha seemed were within the good to excellent range on each of the measures. In addition, all measures seemed to correlate in expected directions with one another, and also have negative correlations with death anxiety as expected. The death anxiety questionnaire was made up of subscales which were further analyzed to see if any of the subscales better captured a specific type of death anxiety. However, this was not the case, as correlations were lower and assumptions of normality between many of the subscales could not be met. It was determined that the overall score for death anxiety on the death anxiety questionnaire was the best marker of participants reported death anxiety, which is congruent with procedures utilized by past terror management theory research.

Perhaps as a theoretical oversight, some questions were phrased in such a way that they referred specifically to a participant's career. Seeing as though we were hoping to capture work as a construct from a psychology of work framework, that is, from the perspective that work can be inclusive of any form of work (e.g., caretaking,

volunteering) not merely that of an occupation or structured career, questions which asked specifically about career or occupation without being specified to be inclusive of these types of work may have failed to fully capture this inclusive idea of work. In the future, measures could include briefings within their instructions which orient participants towards considering work from an inclusive angle.

Experimental procedures required that half of participants be exposed to a death anxiety cue in the form of a single written sentence in which participants were ask to reflect on their own death. Past literature has shown that mortality salience has the greatest impact after some time has passed between the cue and the eventual measuring of death anxiety (Pyszczynski, Greenberg, & Solomon, 1999). In theory, this is because conscious cognitive processes act to suppress anxiety caused by an increase in mortality salience and that it is only after some time has passed that death anxiety increases can be detected. For example, if one were to measure for death anxiety immediately after a mortality salience cue (e.g., being asked to write about their potential experience of death), conscious cognitive processes may be utilized to cope with the increase of mortality salience and thus, death anxiety will appear lower than if death anxiety were measured after a distracting task. While our experimental manipulation was successful in causing various levels of death anxiety between our experiment and control group, this experiment lacked a definitive distracting task. In past experiments, a task (e.g., completing a cross word puzzle) was used to add ample time between the mortality salience cue and the measurement of death anxiety. For our experiment, additional questions were asked, and a series of questionnaires had to be completed with the death

anxiety questionnaire always being the final measure completed. The hope was that completing the other questionnaires would provide enough time to serve as a distracting task. However, there was large variance in the amount of time that it took participants to complete the battery of surveys with the quickest taking only several minutes while others taking the better part of an hour. While data was removed which was clearly completed in a haphazard way (e.g., failing one of the validity measures), it is notably difficult to control for the amount of time that a participant would have had between exposure to the mortality salience cue and completing the death anxiety measure. Because a participant could conceivably take as much or as little time as they liked to complete the survey, even choosing to step away from their computer in the midst of completing the surveys, this variance could have impacted overall sensitivity to death anxiety and thus, impacted the magnitude of the power of results.

It is important to consider the sample as well as key demographic characteristics. While the sample collected reflected a diverse sample of individuals of various racial/ethnic and vocational backgrounds, results must be considered in light of the use of the Mechanical Turk (Mturk) platform for gathering data. While Mturk has been used to gather data on vocational psychology constructs in the past (e.g., Allan & Duffy, 2014), and has proven in past research to be a reputable method of gathering valid samples of data (Buhrmester, Kwang, & Gosling, 2011), it is also important to consider what it means for a potential participant to be utilizing Mturk as a worker.

Mturk workers are paid workers who are compensated for their time by the individuals creating the tasks. There is an application process for workers and workers

must uphold a certain approval rate in order to remain a worker. While workers reported having a diverse number of vocational backgrounds (e.g., part-time work, full-time, student, retired, etc.,) each of these individuals must also to some extent be utilizing MTurk as a form of income and work. It was also not clarified if the participants considered their full-time or part-time work to be utilizing Mturk. It is possible that work, employment and career have different existential meaning for participants who are, at least to some degree, participating in a form of non-traditional work. Like other "gig-economy" forms of work (e.g., Uber, Rover) it is possible that more nuance protean/boundaries carries diminish the existential significance of work and thus, prevent work from functioning as a death anxiety buffer (Briscoe, Hall, & Demuth, 2006). While this is merely speculation, it is possible that more traditional career paths may better moderate death anxiety than those whose work and career is made up of temporary or precarious work.

While the death anxiety buffering effect of work was not directly supported in this study, the protocol was successful in using a mortality salience cue via an online platform in order to create differences in death anxiety between an experiment and control group. More specifically, a one sentence mortality salience cue used in past research (Dechesne et al., 2003). This supports the use of a single sentence mortality salience cue as a possible procedure for future terror management research utilizing online crowdsourcing platforms such as Amazon's mechanical Turk.

Alternatively, it is also possible that moderating effects were non-significant in this study because the work constructs measured do not act as death anxiety buffers as

initially hypothesized. While work, occupation, and career serve many important roles in a person's life, it is possible that vocation is not a necessary part of one's existential wellbeing. This could be the case for individuals whom, when faced with increased mortality salience, are likely to be motivated to change careers or quit their current jobs in search of activities which are more meaningful. However, this would not explain individuals whose calling or identity is largely intertwined with their work and who would identify their work as being largely meaningful. Still, work is a complex part of the human experience and given the large array of possible types or work that one could engage in, it is possible that work serves different purposes for different individuals.

How do we interpret the significant correlations that were found between the work constructs and death anxiety? It was expected that higher scores in death anxiety would have a negative relationship with meaningful work, work social connection and self-determination. According to terror management theory, salient activities which promote and maintain personal identity and self-esteem are mechanisms by which an individual decreases existential angst. If I have work that I find meaningful, with co-workers whom I get along well with and this work promotes the actualization of the self through a unique identity, I would theoretically experience less death anxiety when exposed to reminders of my mortality. It may also be that those who naturally experience less death anxiety, due perhaps to individual differences, also have a tendency to find work and work roles more meaningful and fulfilling. For example, individuals who are higher on the Big-5 trait of neuroticism, theoretically, could experience more frequent negative mood states which decrease their perception of work as being fulfilling, but also

increase the amount of existential angst/death anxiety one experiences. Because of the complex ways in which individual differences and life experiences could range in impacting one's mortality salience and death anxiety, it is a daunting task to determine causation from these theoretically typical correlative relationships. However, the existence of significant correlations does encourage additional research into the nature of these relationships.

Research Limitations

The results of this study need to be considered in light of several limitations. First, by choosing to conduct the research via an online crowdsourcing platform, Mechanical Turk, results may reflect the specific characteristics of the sample and not the general population. In other words, results may reflect Mturk workers, as opposed to a general population of individuals who do not participate in Mturk as a form of supplemental income.

Furthermore, while Mechanical Turk allows for the gathering of data in a quick and fairly convenient fashion, this does not allow for a large amount of control on the administration of the surveys. As noted, participants can take any amount of time in completing the survey, resulting in a large amount of variance in the amount of time taken to complete the survey itself. Because the use of the mortality salience cue is to some degree dependent on timing between the introduction of the cue and the measurement of death anxiety, this could impact the validity of manipulation. In addition, participates could conceivably take the survey from anywhere that an internet connection is available and in any setting. Since past terror management research has shown

demonstrated differences in responder's prosocial behavior by merely being in proximity to a funeral home (Zaleskiewicz, Gasiorowska, & Kesebir, 2015), it is possible that taking the battery of surveys in different uncontrolled settings could decrease the reliability of the sample results.

In general, it is difficult to discern the validity of each individual administration. For example, due to the nature of compensation on MTurk, workers are incentivized to work quickly in order to make money more quickly from one task to the next. This would incentivize taking the survey in a hasty manner without considering in depth the questions asked on each survey. While participant data were excluded due to failing validity checks, failing to answer entire surveys or having I.P addresses which were outside of the continental United States, some participants with concerning parameters surrounding the completion of the surveys (e.g., completing the survey in less than 10 minutes) were included due to having no notable signs that their data was otherwise invalid.

Future Study Recommendations

While this study did not provide evidence for the hypothesis that the observed vocational constructs serve as death anxiety buffers, the premise remains theoretically plausible for future study. The following recommendations summarize potential methods for increasing the reliability of the methodology.

First, it is recommended that more stringent controls be utilized to within the administration protocol. Attempting to control for the testing environment as well as the time interval by which the mortality salience cue is introduced and death anxiety is

measured are important aspects highlighted by previous terror management theory research. This is admittedly difficult due to the nature of data collection via online survey. Future research may consider forgoing online data collection for a more controlled option such as in-person administration at a fixed location. Researchers should strongly consider their available resources (e.g, time, monetary compensations, etc.,) when deciding how to recruit participants. While it has been asserted that experimental designs can be executed via Mechanical Turk (e.g., Berinsky, Huber, & Lenz, 2012) and that rigorous exclusion methods can be applied to improve the quality of data (e.g., Thomas & Clifford, 2017), it may require sophisticated experimental design and use of the Mturk interface.

Second, it is recommended that researchers increase the specificity of the sample they are attempting to gather data from. In this study, a wide range of vocational backgrounds were included in the sample, including individuals who identified as retired, or as students. It was also unspecified if certain demographic identifiers such as working part-time or full-time, included the use of Mechanical Turk as part of their working identity. Future research may benefit from looking more specifically at a single vocational identity to better specify results to one kind of working individual. In addition, future research may benefit from specifying between more traditional working careers, and boundaryless/protean careers made up of a constellation of temporary and/or precarious work. How one perceives their work could influence the existential significance and reflect differences in death anxiety buffering capabilities. Further

specification of these demographic characteristics could help to clarify for which groups of worker's work is more or less a meaningful part of their life and identity.

Conclusion

In conclusion, while a significant negative correlationS were demonstrated between notable work and vocational constructs, there was a lack of evidence to support that these work constructs play a role as moderators of death anxiety as informed by Terror Management Theory. It is possible that this lack of evidence could be a result of limitations of the study itself, as well as the unique demographics of using online crowdsourced workers to conduct research on vocational constructs. Thus, it is suggested that future research recruit participants with intention sampling a population which represents more traditional employment and career structures. It is also suggested that stricter parameters be used in the administration protocol in order to control for potential decreases in validity due to environmental and administration factors. While this particular study was unsuccessful in providing evidence that work constructs serve as a death anxiety buffer, further study is warranted before conclusive statements about the role work plays in mortality salience can be made.

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Appendix A

Demographics Questions

Age:

Gender:

Race/Ethnicity:

Hour worked per week

Occupation Type: “What kinds of work do you currently participate in (include all work in the past month)

Income Level: “How much money do you earn a month from work?”

Mortality Salience Cue

“In the provided space please write, in one sentence, the first thing that comes to mind when you think about your own death.”

Control Cue

“In the provided space, please write, in one sentence, the first thing that comes to mind when you think about your favorite movie.”

Filler/Benign Questions

“In the provided space, please write, in one sentence, the first thing that comes to mind when you think about fitness?

“In the provided space, please write, in one sentence, the first thing that comes to mind when you think about health?

“In the provided space, please write, in one sentence, the first thing that comes to mind when you think about your dream job?

“In the provided space, please write, in one sentence, the first thing that comes to mind when you think about spirituality?

“In the provided space, please write, in one sentence, the first thing that comes to mind when you think about a childhood role model?

“In the provided space, please write, in one sentence, the first thing that comes to mind when you think about your favorite book?

The Work and Meaning Inventory (WAMI)

Work can mean a lot of different things to different people. The following items ask about how you see the role of work in your own life. Please honestly indicate how true each statement is for you and your work.

1) I have found a meaningful career

2) I view my work as contributing to my personal growth

3) My work really makes no difference to the world

4) I understand how my work contributes to my life's meaning

5) I have a good sense of what makes my job meaningful

6) I know my work makes a positive difference in the world

7) My work helps me better understand myself

8) I have discovered work that has a satisfying purpose.

9) My work helps me make sense of the world around me.

10) The work I do serves a greater purpose

Absolutely Untrue - Mostly Untrue - Neither True nor Untrue - Mostly True - Absolutely True

1 - 2 - 3 - 4 - 5

Work Social Connectedness Scale – Revised

Directions: Following are a number of statements that reflect various ways in which we view ourselves in our work environment. Rate the degree to which you agree or disagree with each statement using the following scale (1 = Strongly Disagree and 6 = Strongly Agree). There is no right or wrong answer. Do not spend too much time with any one statement and do not leave any unanswered.

1) I feel comfortable in the presence of people I don't know at work

2) I am in tune with my workplace

3) * Even among my coworkers, there is no sense of brother/sisterhood

4) I fit in well in new situations at work

5) I feel close to my coworkers

6) I feel disconnected from my work place

7) Even around the coworkers I know, I don't feel that I really belong

8) I see people at work as friendly and approachable

9) I feel like an outsider at work

10) I feel understood by the people I know in my workplace

11) I feel distant from people at work

12) I am able to relate to my peers

13) I have little sense of togetherness with my peers

14) I find myself actively involved in group projects at work

15) I catch myself losing a sense of connectedness with my workplace

16) I am able to connect with other people at work

17) I see myself as a loner while working

18) I don't feel related to most people at work

19) My coworkers feel like family

20) I don't feel I participate with anyone or any group while working

Strongly Disagree - Disagree - Mildly Disagree - Mildly Agree - Agree - Strongly Agree

1 - 2 - 3 - 4 - 5 - 6

Death Anxiety Questionnaire

Instructions: For each of the following items, indicate your response according to the following scale.

0 = not at all; 1 = somewhat; 2 = very much

1) Do you worry about dying?

2) Does it bother you that you may die before you have done everything you wanted to do?

3) Do you worry that you may be very ill for a long time before you die?

4) Does it upset you to think others may see you suffering before you die?

5) Do you worry that dying may be very painful?

6) Do you worry that the persons closest to you won't be with you when you are dying?

7) Do you worry that you may be alone when you are dying?

8) Does the thought bother you that you might lose control of your mind before death?

9) Do you worry that expenses connected with your death will be burden to other people?

10) Does it worry you that your instructions or will about belongings may not be carried out after you die?

11) Are you afraid that you may be buried before you are really dead?

12) Does the thought of leaving loved ones behind when you die disturb you?

13) Do you worry that those you care about may not remember you after your death?

14) Does the thought worry you that with death you may be gone forever?

15) Are you worried about not knowing what to expect after death?

The MacArthur Scale of Subjective Social Status

Think of this ladder as representing where people stand in their communities.

People define community in different ways; please define it in whatever way is most meaningful to you. At the top of the ladder are the people who have the highest standing in their community. At the bottom are the people who have the lowest standing in their community.

Where would you place yourself on this ladder?

Please place a large "X" on the rung where you think you stand at this time in your life, relative to other people in your community.

1 . . . 2 . . . 3 . . . 4 . . . 5 . . . 6 . . . 7 . . . 8 . . . 9 . . . 10

Basic Psychological Need Satisfaction in General

Please read each of the following items carefully, thinking about how it relates to your life, and then indicate how true it is for you. Use the following scale to respond:

1 2 3 4 5 6 7

Not at all true somewhat true very true

1) I feel like I am free to decide for myself how to live my life.

2) I really like the people I interact with.

3) Often, I do not feel very competent.

4) I feel pressured in my life.

5) People I know tell me I am good at what I do.

6) I get along with people I come into contact with.

7) I pretty much keep to myself and don't have a lot of social contacts.

8) I generally feel free to express my ideas and opinions.

9) I consider the people I regularly interact with to be my friends.

10) I have been able to learn interesting new skills recently.

11) In my daily life, I frequently have to do what I am told.

12) People in my life care about me

13) Most days I feel a sense of accomplishment from what I do

14) People I interact with on a daily basis tend to take my feelings into consideration

15) In my life I do not get much of a chance to show how capable I am.

16) There are not many people that I am close to

17) I feel like I can pretty much be myself in my daily situations.

18) The people I interact with regularly do not seem to like me much.

19) I often do not feel very capable.

20) There is not much opportunity for me to decide for myself how to do things in my daily life.

21) People are generally pretty friendly towards me.

Appendix B

University of Denver
Department of Counseling Psychology

Principal Investigator: Pat Garriott, Ph.D.
Student Investigator: Julian Frazier
Title of Study: Working For a Living: A Terror Management Theory Approach to Finding Meaning in Vocation

Purpose

You are being asked to participate in a research study. This research study is being conducted in partial fulfillment of requirements for the degree of Doctor of Philosophy by student researcher Julian Frazier of the University of Denver, Counseling Psychology program. The overall purpose of this research is to help understand the connections between vocation, work and individual well-being.

Procedures:

If you participate in this research study, you will be asked to complete several online questionnaires. These questionnaires include items about your life experiences, work aptitude, and career. Completing the questionnaires should take approximately 10-15 minutes.

Voluntary Participation

Participating in this research study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You may choose not to answer any survey question for any reason without penalty or other benefits to which you are entitled. (Note: participants are only entitled full compensation)

Risks or Discomforts

The only associated risk in participating in this study is the discomfort a person may feel in thinking about sensitive and important personal experiences. The level of discomfort experienced when completing this survey will most likely vary from person to person. If you feel discomfort, please call the National Suicide Prevention Line at 1-800-273-TALK or 1-800-273-8255. Alternatively, you can log on to http://www.crisischat.org. The URL will link you with the Lifeline Crisis Chat, which can provide online emotional support, crisis intervention, and suicide prevention services. Chat specialists will listen and support you through whatever difficult times you may be facing. Additionally, you also can call the United Way Helpline at 1-800-233-HELP or 1-800-233-4357, which can help you locate appropriate support services in your area.

Benefits
Possible benefits of participation include contribution to the scientific community and to understanding the connection between vocation, work and well-being.

Incentives to participate
If you do choose to participate in this study, you will be eligible for a compensation payment via the Mechanical Turk interface at a rate of $.01 per question answered for a total of $.81 upon full completion.

Confidentiality
The researcher will de-identify data to keep your information safe throughout this study. Your individual identity will be kept private when information is shared, presented, or published about this study.

However, should any information contained in this study be the subject of a court order or lawful subpoena, the University of Denver might not be able to avoid compliance with the order or subpoena. The research information may be shared with federal agencies or local committees who are responsible for protecting research participants.

Before you begin, please note that the data you provide may be collected and used by Qualtrics as per its privacy agreement. This research is only for U.S. residents over the age of 18 (or 19 in Nebraska). Please be mindful to respond in private and through a secured Internet connection for your privacy. Your confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties.

Questions
If you have any questions about this project or your participation, please feel free to contact primary researcher Julian Frazier at Julian.Frazier@du.edu and/or research supervisor/supervisor Patton.Garriott at 303-871- 6758 or Pat.Garriott@du.edu at any time.

If you have any questions or concerns about your research participation or rights as a participant, you may contact the DU Human Research Protections Program by emailing IRBAdmin@du.edu or calling (303) 871-2121 to speak to someone other than the researcher

Please take all the time you need to read through this document and decide whether you would like to participate in this research study. If you agree to the terms of this document, please continue to the next page.

If you decide to participate, your completion of the research procedures indicates your consent. Please keep this form for your records.

_____	_____
Signature of Study Participant	Signature of Researcher
_____	_____
Date	Date